

## ZAG (1D4): sc-13585



The Power to Question

## BACKGROUND

ZAG (Zn- $\alpha$ 2-glycoprotein, also designated Zn- $\alpha$ 2-gp) is a soluble, secreted protein found in serum and other body fluids (such as cerebrospinal fluid, blood plasma, urine and sweat). ZAG has a tendency to precipitate with zinc salts, has electrophoretic mobility in the region of the two globulins, and has 18% carbohydrate content. A member of the immunoglobulin superfamily, ZAG has a high degree of sequence similarity to class-I major histocompatibility complex (MHC) antigens. The ZAG structure includes a large groove analogous to class I MHC peptide binding grooves. The crystal structure of ZAG resembles a class I MHC heavy chain but does not bind the class I light chain  $\beta$ -2-Microglobulin, unlike other MHC related proteins. ZAG stimulates lipid degradation in adipocytes and its overexpression causes the extensive fat losses associated with some advanced cancers.

## CHROMOSOMAL LOCATION

Genetic locus: AZGP1 (human) mapping to 7q22.1.

## SOURCE

ZAG (1D4) is a mouse monoclonal antibody raised against full length ZAG of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ZAG (1D4) is available conjugated to agarose (sc-13585 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13585 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13585 PE), fluorescein (sc-13585 FITC), Alexa Fluor® 488 (sc-13585 AF488), Alexa Fluor® 546 (sc-13585 AF546), Alexa Fluor® 594 (sc-13585 AF594) or Alexa Fluor® 647 (sc-13585 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13585 AF680) or Alexa Fluor® 790 (sc-13585 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

ZAG (1D4) is recommended for detection of ZAG of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ZAG siRNA (h): sc-36865, ZAG shRNA Plasmid (h): sc-36865-SH and ZAG shRNA (h) Lentiviral Particles: sc-36865-V.

Molecular Weight of ZAG: 47 kDa.

Positive Controls: human salivary gland extract: sc-363762 or human plasma extract: sc-364374.

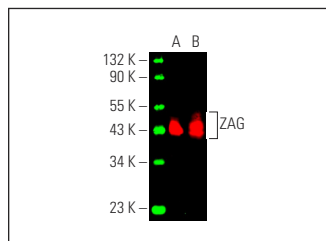
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

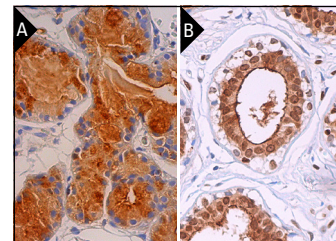
## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



ZAG (1D4) Alexa Fluor® 790: sc-13585 AF790. Direct near-infrared western blot analysis of ZAG expression in human plasma (A) and human salivary gland tissue extract (B). Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards: sc-516730.



ZAG (1D4): sc-13585. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing membrane and nuclear staining of glandular cells and nuclear staining of myoepithelial cells (B).

## SELECT PRODUCT CITATIONS

- Hu, Y., et al. 2007. Identification and validation of novel CSF biomarkers for early stages of Alzheimer's disease. *Proteomics Clin. Appl.* 2: 1373-1384.
- Kong, B., et al. 2010. AZGP1 is a tumor suppressor in pancreatic cancer inducing mesenchymal-to-epithelial transdifferentiation by inhibiting TGF- $\beta$ -mediated ERK signaling. *Oncogene* 29: 5146-5158.
- Xiao, H., et al. 2012. Proteomic analysis of human saliva from lung cancer patients using two-dimensional difference gel electrophoresis and mass spectrometry. *Mol. Cell. Proteomics* 11: M111.012112.
- Maslinska, D., et al. 2013. Crosstalk in human brain between globoid cell leucodystrophy and zinc- $\alpha$ 2-glycoprotein (ZAG), a biomarker of lipid catabolism. *Folia Neuropathol.* 51: 312-318.
- Balaž, M., et al. 2014. Improved adipose tissue metabolism after 5-year growth hormone replacement therapy in growth hormone deficient adults: the role of zinc- $\alpha$ 2-glycoprotein. *Adipocyte* 4: 113-122.
- Balaz, M., et al. 2015. Adipokine zinc- $\alpha$ 2-glycoprotein regulated by growth hormone and linked to Insulin sensitivity. *Obesity* 23: 322-328.
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- Hanamura, T., et al. 2021. Secreted indicators of androgen receptor activity in breast cancer pre-clinical models. *Breast Cancer Res.* 23: 102.
- Öling, S., et al. 2024. A human stomach cell type transcriptome atlas. *BMC Biol.* 22: 36.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.